

Amendments to the Specification

[0011] Another approach is the electron beam CT scanner in which a rotating x-ray source is generated without mechanical motion of a gantry. Instead, as shown in U.S. Pat. Nos. 4,352,021; 4,672,649; 6,130,929; 5,491,734; ~~5,504,791~~; 5,504,791; 6,009,141; 5,172,401; and 4,158,142, the electron beam is directed to stationary anodes around the subject to produce x-rays from the desired projection angles. Although these "EBCT" systems acquire a 2D slice image very rapidly, the patient table must be moved to acquire additional slice images along the z-axis.

[0028] With initial reference to Figs. 1 and 2, a computed tomography (CT) imaging system 10 includes a gantry 12 representative of a "third generation" CT scanner. Gantry 12 has an x-ray source 13 that projects a cone beam of x-rays 14 toward a detector array 16 on the opposite side of the gantry. The detector array 16 is formed by a number of detector elements 18 which together sense the projected x-rays that pass through a medical patient 15. Each detector element 18 produces an electrical signal that represents the intensity of an impinging x-ray beam and hence the attenuation of the beam as it passes through the patient. During a scan to acquire x-ray projection data, the gantry 12 and the components mounted thereon rotate about a center of rotation, or z-axis 19 and the patient 15 is moved through a bore 11 to a position along the z-axis 19 by table 38.